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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/664,299	09/17/2003	David William Trepp	282530US8X	4575
22850 7590 05/17/2007 OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER LONG, ANDREA NATAE	
			ART UNIT 2176	PAPER NUMBER
			NOTIFICATION DATE 05/17/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

Office Action Summary	Application No. 10/664,299	Applicant(s) TREPESS ET-AL.	
	Examiner Andrea N. Long	Art Unit 2176	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 September 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>09/17/2003 and 01/12/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-22 have been examined in response to application filed 09/17/2003.

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 21 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 21, is directed to a transmission medium. Common knowledge to one of skilled artisan is aware of transmission mediums in which includes transmitting signals. Signals do not fall within one of the four categories (process, machine, article of manufacture, or composition of matter) of patent eligible subject matter, and therefore is non-statutory under 35 U.S.C. 101.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. **Claims 1, 2, 5, 10, 14, 15, 17, and 22 are rejected under 35 U.S.C. 102(a) as being anticipated by John Sharp (WO 02/27508 A1), hereinafter “Sharp”.**

As for independent claim 1, Sharp teaches an information retrieval system in which a set of distinct information items map to respective nodes in an array of nodes by mutual similarity of said information items, so that similar information items map to nodes at similar positions in said array of nodes; said system comprising:

(i) a graphical user interface for displaying a representation of at least some of said nodes as a two-dimensional display array of display points within a display area on a user display (page 3 lines 23-24, page 4 lines 1-3, Fig. 2 → Sharp teaches a GUI for displaying a collection of data items in a x-y coordinate system to a user to interact with);

(ii) a user control for defining a two-dimensional region of said display area (page 3 lines 6-8 → Sharp teaches a GUI generator that controls the display of results set on an axis); and

(iii) a detector for detecting those display points lying within said two-dimensional region of said display area (page 3 lines 6-13 → Sharp teaches a GUI generator which includes a

zooming tool and a marquee tool for providing additional functions for a user to manipulate the data items and select the data items);

(iv) said graphical user interface also displaying a list of data representing information items, being those information items mapped onto nodes corresponding to display points displayed within said two-dimensional region of said display area (page 3 lines 11-17 → Sharp teaches wherein data items can be displayed in a collection bin as thumbnails, the thumbnails representing an individual item).

As for dependent claim 2, Sharp teaches in which said information items are mapped to nodes in said array on the basis of a feature vector derived from each information item (page 7 lines 12-23 → Sharp teaches that the data items are plotted by qualitative attributes that represent properties of each data item. Examiner notes, that qualitative attributes are analogous with feature vector).

As to dependent claim 5, Sharp teaches in which said information items comprise textual information, said nodes being mapped by mutual similarity of at least a part of said textual information (page 8 lines 3-24 → Sharp teaches data items being plotted according to keyword and qualitative attributes).

As to dependent claim 10, Sharp teaches a user control for choosing one or more information items from said list; said graphical user interface being operable to alter said manner of display within said display area of display points corresponding to selected

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information items (page 3 lines 6-13 → Sharp teaches a GUI generator which includes a zooming tool and a marquee tool for providing additional functions for a user to manipulate the data items and select the data items).

As to dependent claim 14, Sharp teaches a data processing device comprising the information system (page 6 lines 1-5, “personal computer”). While Sharp does not forcefully disclose a portable data processing device, it is reasonable for one skilled in the art to have implemented the system on a portable device such as a laptop computer, that embodies the same capabilities of that of a personal computer, for a user’s convenience.

As to dependent claim 15, Sharp teaches a processing apparatus comprising a system according to claim 1 (page 6 lines 1-5, “personal computer”).

As to independent claim 17, claim 17 incorporates substantially similar subject matter as claimed in claim 1 and is rejected along the same rationale.

As to dependent claim 22, Sharp teaches computer software having a program code for carrying out the method according claim 17 (page 5 lines 26-28 → Sharp teaches wherein software facilitates the method of the invention).

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. **Claims 12, 16, and 18-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Kohonen et al (Self Organization of a Massive Document Collection, 2000), hereinafter “Kohonen”.**

As to independent claim 12, Kohonen teaches an information storage system in which a set of distinct information items are processed so as to map to respective nodes in an array of nodes by mutual similarity of the information items, such that similar information items map to nodes at similar positions in the array of nodes; the system comprising:

a generator to generate a feature vector derived from each information item, the feature vector for an information item representing a set of frequencies of occurrence, within that information item, of each of a group of information features (page 576, section A → Kohonen teaches documents that are represented as vectors in which each component corresponds to the frequency of occurrence of a particular word in the document); and

mapping logic to map each feature vector to a node in the array of nodes, the mapping between information items and nodes in the array including a dither component so that substantially identical information items tend to map to closely spaced but different nodes in the array (Fig. 6, page 574, section B → Kohonen teaches classical methods of mapping data items and Fig. 6 teaches items closely spaced but in different areas of the display).

As to independent claim 16, claim 16 incorporates substantially similar subject matter as claimed in claim 12 and is rejected along the same rationale.

As to dependent claim 18, Kohonen teaches computer software having program code for carrying out a method according to claim 16 (page 575 → Kohonen teaches that his group developed software for the method).

As to dependent claim 19, Kohonen teaches providing medium for providing program code according to claim 18 (page 575 → Kohonen teaches that his group developed software for the method and that the system operates in real time on in fits medium sized computers).

As to dependent claim 20, Kohonen teaches said medium being a storage medium (page 575 → Kohonen teaches that his group developed software for the method and that the system operates in real time on in fits medium sized computers. It is well known in the art that software is contained on a medium such as a CD or can be located on the hard drive of a medium sized computer).

As to dependent claim 21, Kohonen teaches said medium being a transmission medium (Page 575 → Kohonen teaches that his group developed software for the method and that the system operates in real time on in fits medium sized computers. It is well known in the art that computers can consist of transmission mediums such as wired Internet).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. **Claims 3, 4, and 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sharp in view of Kohonen.**

As for dependent claim 3, Sharp teaches qualitative attributes “feature vector” that represent properties of data items. However, Sharp does not teach wherein the “feature vector” represents frequencies of occurrence. Kohonen teaches a feature vector for an information item represents a set of frequencies of occurrence, within that information item, of each of a group of information features (page 576, section A → Kohonen teaches where documents are represented as vectors in which each component corresponds to the frequency of occurrence of a particular word in a document).

It would have been obvious to one skilled in the art at the time the invention was made to have combined the qualitative attributes of Sharp with the representation of frequencies of occurrence of a word in a document of Kohonen to reflect the significance or power of a document amongst other documents.

As to dependent claim 4, Sharp teaches in which said information items comprise textual information (page 8 lines 3-8 → Sharp teaches that the data items include keywords, for text-based content searches). Sharp additionally teaches qualitative attributes “feature vector” that represent properties of data items. Sharp does not teach feature vector represents a set of frequencies of occurrence. Kohonen teaches a feature vector for an information item represents a set of frequencies of occurrence, within that information item, of each of a group of words (page 576, section A → Kohonen teaches where documents are represented as vectors in which each component corresponds to the frequency of occurrence of a particular word in a document).

It would have been obvious to one skilled in the art at the time the invention was made to have combined the qualitative attributes of Sharp with the representation of frequencies of occurrence of a word in a document of Kohonen to reflect the significance or power of a document amongst other documents.

As to dependent claim 6, Sharp teaches data items including textual information. Sharp does not teach in which information items are pre-processed for mapping by use of a threshold frequency. Kohonen teaches in which said information items are pre-processed for mapping by excluding words occurring with less than a threshold frequency amongst said set of information items (page 581, section A → Kohonen teaches words occurring less than 50 time in the whole corpus, as well as a set of common words in a stopword list of 1335 words were removed). It is reasonable for one skilled in the art to include that the pre-processing for mapping may also

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exclude words occurring with more than a threshold, to reduce the redundancy of unwanted words when extracting relevant terms.

It would have been obvious to one skilled in the art at the time the invention was made to have combined the textual information of Sharp with the pre-processing of Kohonen to add value to text retrieval.

As to dependent claim 7, Sharp teaches data items including textual information. Sharp does not teach in which information items are pre-processed for mapping by use of a threshold frequency. Kohonen teaches in which said information items are pre-processed for mapping by excluding words occurring with less than a threshold frequency amongst said set of information items (page 581, section A → Kohonen teaches words occurring less than 50 times in the whole corpus, as well as a set of common words in a stopword list of 1335 words were removed).

It would have been obvious to one skilled in the art at the time the invention was made to have combined the textual information of Sharp with the pre-processing of Kohonen to add value to text retrieval.

As to dependent claim 8, Sharp teaches (i) search logic for carrying out a word-related search of said information items (page 8 lines 3-8 → Sharp teaches that users can search data items that contain entered keywords);

(ii) said search logic and said graphical user interface being arranged to co-operate so that

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only those display points corresponding to information items selected by said search are displayed (page 8 lines 3-24 → Sharp teaches that representations of the results of the keyword search in addition to the qualitative attributes are displayed to the user).

As to dependent claim 9, Sharp teaches the system of claim 1. However, Sharp does not explicitly teach a dither component for spacing identical information items. Kohonen teaches a dither component so that substantially identical information items tend to map to closely spaced but different nodes in said array (page 574, section B, Fig. 6 → Kohonen teaches that basis projection methods can be used to organize data items).

It would have been obvious to one skilled in the art at the time the invention was made to have combined the system of Sharp with the dithering component of Kohonen to provide a visually enriched representation of data items within a large collection of data items.

9. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sharp.

As to dependent claim 11, Sharp teaches in which said graphical user interface is operable to display in a different colour and/or intensity those display points corresponding to a results list (page 4 lines 7-9, page 12 lines 14-21). Sharp additionally teaches choosing one or more information items from said list (page 3 lines 6-13). While Sharp does not forcefully teach changing the color or intensity of display points when a user selects it from a list, it would have been obvious to one skilled in the art at the time the invention was made to have included

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this feature in the system to allow for increased visual enhancement of items that are of interest of a user.

10. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kohonen in view of Hattori et al (Sequential Learning for SOM Associative Memory with Map Reconstruction, 2001), hereinafter "Hattori" in further view of Jockusch (An Instantaneous Topological Mapping Model for Correlated Stimuli, 1999), hereinafter Jockusch.

As to **dependent claim 13**, Kohonen teaches a storage system for mapping information items to nodes in an array of nodes. Kohonen also teaches logic to map a newly received information item to a node in the array of nodes (page 574, section B → Kohonen teaches new input items can be mapped straight into the most similar models). Kohonen does not teach a mapping error detector and detection error for a remapping process. Hattori teaches a mapping error detector to detect a mapping error as the newly received information item is so mapped (Abstract → Hattori teaches when a new input is applied, a part of map is reconstructed) and a remapping process of the set of information items and the newly received information item (Abstract → Hattori teaches remapping when a new input is applied). Jockusch teaches logic responsive to detection that the mapping error exceeds a threshold error amount (page 531, 2nd column, 1st paragraph, page 533, 1st column, 1st paragraph → Jockusch teaches defining a threshold value for an error which has a desired mapping resolution).

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It would have been obvious to one skilled in the art at the time the invention was made to have combined the storage system of Kohonen with the error detecting of Hattori in addition to the threshold error of Jockusch to allow for appropriate mapping for node that are to close to each other.

Conclusion

11. The prior art made of record on Form PTO 892 and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrea N. Long whose telephone number is 571-270-1055. The examiner can normally be reached on Mon - Thurs 6:00 am to 3:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather Herndon can be reached on 571-272-4136. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Andrea Long
05/01/2007

William S. Bashore
WILLIAM BASHORE
PRIMARY EXAMINER